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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,132	12/20/2000	Akira Osamato	TI-29873	6611
23494	7590	01/12/2006	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265				HERNANDEZ, NELSON D
ART UNIT		PAPER NUMBER		
2612				

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/745,132	OSAMATO, AKIRA
	<b>Examiner</b>	<b>Art Unit</b>
	Nelson D. Hernandez	2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on *Appeal Brief filed on October 17, 2005*.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-3 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 1 and 2 is/are allowed.

6)  Claim(s) 3 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 20 October 2000 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_ .

5)  Notice of Informal Patent Application (PTO-152)

6)  Other: \_\_\_\_\_

## DETAILED ACTION

1. Please note that the examiner of record has changed. All future correspondence should be directed to Nelson D. Hernandez whose information is provided at the end of this Office Action.

### ***Response to Arguments***

2. Applicant's arguments, see page 3, filed October 17, 2005, with respect to the rejection of **claim 3** under 35 USC § 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suga, US Patent 5,583,568 in view of Takizawa, US Patent 6,388,706 B1.**

**Regarding claim 3,** Suga discloses an interpolator for complementary-color-filtered image, comprising: and interpolator (Fig. 16: 610) for the color subarrays of a complementary-color-filtered array (fig. 2); a filter (White Balance circuit shown in fig.

16: 612) coupled to the output of the interpolator to adjust the interpolated colors at each pixel by adjusting with an imbalance factor for the pixel (Col. 9, lines 1-42).

Suga fails to teach that the interpolated colors at each pixel are adjusted by adjusting with an imbalance factor for the pixel.

However, adjusting interpolated colors at each pixel by adjusting with an imbalance factor for the pixel is well known in the art as taught by Takizawa. Takizawa teaches an interpolator for the color subarrays of a complementary color filtered array changed into RGB colors (See fig. 7a; col. 8, line 44 – col. 9, line 20), a filter coupled to the output of the interpolator (referred to as performing white balance and gain adjustments) to adjust the interpolated colors at each pixel by adjusting with an imbalance factor (coefficients Ar, Ag and Ab) for the pixel (col. 13, line 53 – col. 14, line 23).

Therefore, taking the combined teaching of Suga in view of Takizawa as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Suga by adjusting the interpolated colors at each pixel by adjusting with an imbalance factor for the pixel. The motivation to do so would have been to correct the decrease in marginal brightness as suggested by Takizawa (See col. 13, line 64 – col. 14, line 4).

***Allowable Subject Matter***

**5. Claims 1 and 2 are allowed.**

6. The following is a statement of reasons for the indication of allowable subject matter:

**Regarding claim 1,** the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest:

(i) subtracting a quantity  $(Ye+Cy-2*G-Mg)/4$  from  $Ye$  to generate the pixel's adjusted yellow value where  $Ye$  is the pixel's yellow value from step (b),  $Cy$  is the pixel's cyan value from step (c),  $Mg$  is the pixel's magenta value from step (d), and  $G$  is the pixel's green value from step (e);

(ii) subtracting the quantity  $(Ye+Cy-2*G-Mg)/4$  from  $Cy$  to generate the pixel's adjusted cyan value;

(iii) adding the quantity  $(Ye+Cy-2*G-Mg)/4$  to  $Mg$  to generate the pixel's adjusted magenta value; and

(iv) adding the quantity  $(Ye+Cy-2*G-Mg)/8$  to  $G$  to generate the pixel's adjusted green value.

**Regarding claim 2,** the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest:

(i) subtracting a quantity  $(Ye+Cy-2* G-Mg)/4$  from  $Ye$  to generate the pixel's adjusted yellow value;

(ii) subtracting the quantity  $(Ye+Cy-2*G-Mg)/4$  from  $Cy$  to generate the pixel's adjusted cyan value;

(iii) adding the quantity  $(Ye+Cy-2^*Mg)/4$  to Mg to generate the pixel's adjusted magenta value; and

(iv) adding the quantity  $(Ye+Cy-2^*G-Mg)/8$  to G to generate the pixel's adjusted green value.

***Conclusion***

7. Because new grounds for rejection are being applied to unamended **claim 3**, this Office Action will be Non-Final.

***Contact***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernandez whose telephone number is (571) 272-7311. The examiner can normally be reached on 8:30 A.M. to 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nelson D. Hernandez  
Examiner  
Art Unit 2612

NDHH  
January 5, 2006



NGOC-YEN VU  
PRIMARY EXAMINER